Hamilton Apple Computer Klub

hackette

September, 1990 Volume 9, No. 1

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SPECIAL INTEREST GROUPS

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September 4, 1990

AppleWorks SIG
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Meets 1 Wednesday of the Month
September 5, 1990

TAC and Friends
Vic Valentic 389-9015

Beginner's SIG
To be arranged each meeting

Macintosh SIG
Donna (416)385-0296

Communications SIG
Paul (416) 389-8854

Game Board
(416) 689-3982

Paul Barber
presents the Disk of the Month

"Handwriting Analysis"

plus some new purchases
Win, Lose or Draw
Jeopardy
& MTV's Ridiculous Trivia Show
"Remote Control

McMaster University
Medical Centre
Room 2J36
Tuesday, September 11, 1990
7:30 p.m. for Conversation & Coffee
8:00 p.m. for Questions & Sales & Play

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Mosche's Musings

Welcome back! I hope you have all had a productive and enjoyable summer.

As we begin the 1990-1991 meetings of H.A.C.K., some business resolved during our general meeting in June need be noted as it will effect members through both the change in organization and the fee structure. During that meeting the slate of candidates were approved as was the restructured executive. The new positions and the Klub's officers are listed on the front page. Also the resolutions concerning fees were passed. They are:

1] We will increase our membership fees, beginning September 1990 by $5.

2] Visitor's admission will be $4, but family groups will pay only a maximum of $5.

On September 9, 1991 H.A.C.K. will again take part in the Burlington computer show. A coupon that will get you a dollar off the entrance price is included in this month's Hackette or you can contact me and I will ensure we have some available at the show. The executive will again man the booth this time. We hope that during the next show in the new year that members of the Klub will also volunteer.

As far as Macintosh clubs go, we seem to be the only game in town or the region now. The Mac Club run by Light Computer has folded. In light of this we have begun to ask some very real questions about the membership we now have and what our direction should be. You will find that we are interested in knowing what our SIGs are doing and how many members attend meetings. Should we plan some additional workshops or other events with the SIGs to attempt to get new members. In short we are interested in ideas that you may have that will enable us to meet your needs in any way that the Klub can.

If you have interests we are not meeting, and whether you attend meeting regularly or not, please let us know what those interests are. You can do this in any number of ways from showing up at the meeting and telling us during the informal discussions to just calling us on the phone. We are interested in what you would like to see. We are also searching for new ideas and presentations. Let us know what we can do to enhance the club for you. When we are involved in the same enterprise we can have a much better product and meet the needs of our members. Thank you for your participation and interest and I look forward to an exciting and productive year with H.A.C.K.

-Mosche Freedman

Summer Fun, from DUBL-CLiCK

The Boot Up Process

by Randy Brandt

This is the first in a series of articles that describe the internal workings of AppleWorks 3.0. These articles will help intermediate and advanced AppleWorks users understand why the program behaves the way that it does. Mr. Brandt is one of the authors of AppleWorks 3.0.

There are at least three ways to launch AppleWorks: by booting your computer with an AppleWorks Startup Disk, by using a program selector, or by typing the necessary BASIC commands. However, loading AppleWorks into memory follows a similar path no matter which procedure you use to start the program. In this article, I will describe what occurs each time you launch

Booting a Disk

Whenever you boot your system with a disk containing the ProDOS operating system, the computer loads and runs ProDOS. ProDOS then looks for the first system file with a name that ends with ".SYSTEM" and launches that file.

The 5.25-inch AppleWorks Startup Disk and 3.5-inch Program Disk both include ProDOS and a file called APLWORKS.SYSTEM.

TimeOut UltraMacros' installation process installs a file named ULTRA.SYSTEM on your AppleWorks disk and renames the AppleWorks program file from APLWORKS.SYSTEM to APLWORKS.SYS . After you install UltraMacros, your system will load ProDOS into RAM and then launch the file ULTRA.SYSTEM, which in turn launches APLWORKS.SYS

The more enhancements you make to AppleWorks, the more complex the process becomes. For example, if you use SpellCopy to automatically copy your spelling dictionaries and other files into memory, the program installs SPELCOPY.SYSTEM on your disk and renames APLWORKS.SYSTEM to APLWORKS.SYS. If you have SpellCopy on your AppleWorks Startup Disk, it copies the dictionaries and then launches either UltraMacros or AppleWorks.

Using Program Selectors or BASIC

If you use a program selector or BASIC to launch either UltraMacros or AppleWorks, you have already loaded ProDOS into RAM. All you need do now is select the system file you want to run. UltraMacros (which then launches AppleWorks) or can select APLWORKS.SYS to run AppleWorks without UltraMacros. An Applied Engineering memory card user might pick BASIC.SYSTEM to run a program for setting up a RAM disk prior to running AppleWorks.

APLWORKS.SYSTEM

The file APLWORKS.SYSTEM contains the startup code, and much of the main controlling code for AppleWorks. This includes the keyboard and screen display routines used by every facet of the program.

The first thing that APLWORKS.SYSTEM does is make certain it is running on a machine with at least 128K. Then it locates itself in memory so the permanent code, called the Host, is in place to control AppleWorks.

Next, AppleWorks sets up its working environment. First, it disconnects /RAM, the small RAM disk set up by ProDOS that uses the second 64K memory bank in all 128K machines. Since that area of memory will be used to store AppleWorks desktop file information, any files on the RAM disk would be destroyed anyway. Disconnecting ?RAM keeps users from trying to use it to

How to Save Space on Your Disks

Once you know how ProDOS decides which program to launch, you can rearrange your disks to force ProDOS to launch any program you choose. All you need do is reorganize the catalog on the disk so the system file you want to launch is the first file in the catalog.

Two popular utility programs let you reorganize the files on a disk. Copy II+, version 9.0 and later, offers a menu-driven option that lets you sort the files on the disk catalog in any order you specify. CAT.DOCTOR, a utility program on Glen Bredon's ProSel disk, also lets you reorganize the disk catalog.

If you do not have Copy II+ or ProSel, you can use any disk utility program to create a new disk that has ProDOS followed by the system file you want to launch from the disk. Follow these steps to prepare a bootable disk that launches any ProDOS program you specify.

1. Use a disk utility to format a blank disk.
2. Copy ProDOS from the original disk onto the newly formatted one.
3. Copy the system file that launches the program you want run.
4. Use the file copy program to transfer the remaining files from the original disk onto the new disk. When you boot your computer with this disk, ProDOS will launch the first system file you copied onto the disk.

If you want to rearrange the existing files on a disk, the quickest way to get the desired system file to run is to swap the position of two .SYSTEM files onto another.

1. Copy both the first ".SYSTEM" file on the disk and the desired file onto the another disk.
2. Delete the two files from the original disk.
3. Copy the desired start file back, followed by the other file.
4. Since ProDOS always adds a new file to the directory in the first available directory position, your files will now be swapped and ProDOS will launch the correct file.

store files.

The AppleWorks stores the pathname that was used to start APLWORKS.SYSTEM. AppleWorks uses that pathname to locate the other AppleWorks files, no matter what prefix was set when you launched the program. For example you could set the prefix to "/HD", and then launch AppleWorks from Applesoft BASIC with the command "-/HD/AW/APLWORKS.SYSTEM". AppleWorks would know that its files are in "/HD/AW" and not in the prefix-specified directory.

Memory Managers

Next, AppleWorks chooses the memory manager that is appropriate for your computer. (AppleWorks comes with four memory managers that I will discuss in greater detail in a future article in this series.) The memory manager contains the code that stores and recalls desktop information; having different memory managers lets AppleWorks use the unique features of the various memory configurations found in Apple II systems.

AppleWorks follows these steps to select the appropriate memory manager:

1. The program checks if it is running on a IIGS. If so, it loads SEG.RM. If not, it tries step 2.
2. Now that AppleWorks knows it is not running on a IIGS, it checks if you have an auxiliary slot memory board such as a RamWorks, Z-Ram, or MultiRAM memory card. [*Ed: See the sidebar "Memory Cards: Which Type Do You Own?" on page 8 of the February 1990 issue of the AppleWorks Forum for information about the different types of memory cards.]* If AppleWorks finds a card with a least two 64K banks of memory, the program loads SEG.AM. If not, it tries step 3. (Thanks largely to requests from NAUG

member Dave Gair, we purposely have AppleWorks test first for an auxiliary slot card. Thus, if you have both an auxiliary slot card and a peripheral slot card, you can use the peripheral slot as a RAM disk and the auxiliary slot card to expand the AppleWorks desktop.)

3. AppleWorks then checks if you have a peripheral slot ("slinky") card such as a RamFactor, RamExpress, or Apple Memory Card. If it finds a peripheral slot card, AppleWorks loads SEG.XM and creates a dummy disk file to use for desktop memory. If this fails, the program proceeds to step 4.
4. Since you do not have a IIGS, or an auxiliary slot card, or a peripheral slot card in your computer, AppleWorks assumes that you have only 128K of memory in an Apple IIe or IIc, and it loads SEG.00. This leaves about 40K for desktop memory after space is reserved for the program and related files.

AppleWorks next asks the memory manager to allocate the available memory and compute the amount of available desktop space.

Note that AppleWorks only uses one memory manager on any particular hardware configuration; you can delete the extra managers from your working AppleWorks disk. For example, IIGS users can delete SEG.XM, SEG.AM, and SEG.00, leaving only SEG.RM on the disk.

Environmental Aspects

The next step is to load the file SEG.EL. This file contains the elementary arithmetic functions for SANE, the Standard Apple Numerics Environment. The memory manager copies SEG.EL onto the language card area of memory, where it provides the math routines used by the spreadsheet and data base modules.

Then AppleWorks scans the Apple II slots to identify your disk drive and printer slots. Its stores that information for later use.

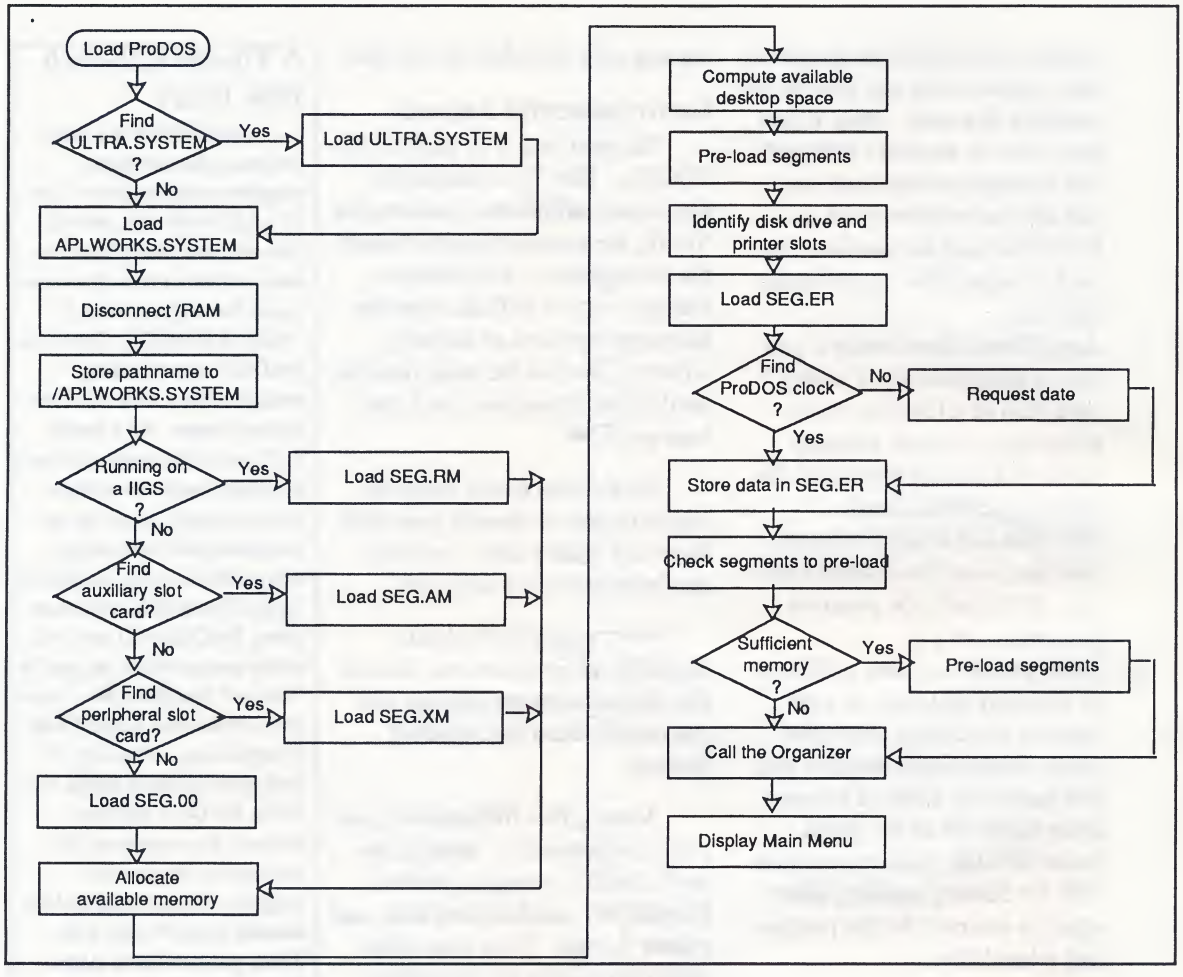
Next, AppleWorks loads SEG.ER, the Environment Record file that contains the settings you can modify from the Standard Settings

Menu. This file contains your preferred preloading settings, the spell checker settings, date/time formats, the standard data disk, and printer drivers. (Note that while SEG.PR contains all the printer drivers, AppleWorks only accesses SEG.PR when you change the standard settings. Once you configure AppleWorks for your printer, you no longer need SEG.PR on your working disk.)

With SEG.PR in memory, AppleWorks checks ProDOS to see if you have a clock. If it finds a clock, AppleWorks reads the clock to find the current date. Otherwise the program prompts you to enter the date. AppleWorks then stores the date in the file SEG.ER.

A Tip for 5.25-inch Disk Users

AppleWorks is a large program; the complete program requires three sides of a 5.25-inch disk, and all disk volumes must have the same volume name (the name on all the original disks is /APPLEWORKS). However, ProDOS cannot manage multiple disks with the same volume name. As a result, 5.25-inch disk users who want to switch between modules cannot simply insert the appropriate disk in an empty drive while leaving a different AppleWorks disk in the first drive. ProDOS will not look at the second drive because it "knows" that drive one holds the volume that AppleWorks is requesting. However, if you open the door on the first drive, ProDOS will hunt through the remaining disk devices for the correct program file and will find the second AppleWorks disk. Thus, you can leave AppleWorks disks in both drives and force ProDOS to find the correct disk by closing and opening the doors on the two drives.



Preloading

The next step in the startup process is to preload any AppleWorks modules you specified. AppleWorks checks if you have sufficient memory and then loads the selected segments into desktop memory where they can be retrieved quickly.

AppleWorks consists of more than 30 segments which are managed by the Host. These segments, known as overlays, let a large program run on a machine which has insufficient memory to load the entire program. Any time AppleWorks needs a segment, the Host checks if the segment is already stored on the desktop. If the segment is not in memory, the Host loads it from the disk. That is why the disk drive may activate the first time you perform and AppleWorks task but not the second time you use the same command. When the Host finds the segment, it loads the code from the disk and tries to store that code on the desktop so that succeeding calls for the segment can be answered without a disk access.

AppleWorks displays a message such as "Place the DB PROGRAM disk in a drive" when it cannot find the appropriate segment on a disk in a drive.

Now that everything is loaded and initialized, AppleWorks calls the Organizer segment to display the Main Menu and you are ready to work. I will discuss the Oganizer in the next article in this series.

Summary

The figure at the left contains a flowchart that depicts the steps that occur when you boot AppleWorks 3.0. You also learned the following concepts about AppleWorks 3.0:

1. ProDOS always looks for the first system file whose name ends with ".SYSTEM" and launches it. You can manipulate which program boots from a disk by reordering the system files on that disk.
2. Your copy of AppleWorks does not use all the files on the disk. You can save disk space by deleting the file SEG.PR and the unused memory managers once you configure a working AppleWorks disk.
3. There is a rationale behind AppleWorks' seeming random disk accesses.

Next month I will describe AppleWorks' Organizer; the "command center" for AppleWorks.

[*Randy Brandt, an author of AppleWorks 3.0, is the developer of TimeOut UltraMacros, PowerPack, and numerous other AppleWorks enhancements. Mr. Brandt also owns JEM Software, a company that produces AppleWorks enhancements.*]

[*This is reprinted with persmission from the June issue of the NAUG magazine "AppleWorks Forum". The permission extends to only one article from any issue or any series and so if you want to know more about the continutation of this series, you are just going to have to come to the AppleWorks SIG meetings or to join NAUG or preferably do both. The membership with NAUG has its advantages: great prices on TimeOut products, for example there is special prices for members on these latestTimeOut products.*

AW Companion 25.95 instead of 39.95
SuperFonts Activity Guid (for educators is 34.95 instead of 49.95
Text Tools is 30.95 instead of 49.95
Telecomm is 39.95 instead of 69.95
MacroEase is 25.95 instead of 39.95

Membership with NAUG is $29 per year. You can phone with your MasterCard or VISA number (313) 454-1115 or write NAUG, National AppleWorks Users Group, Box 87453, Canton, Michigan 48187.

- Donna]

HAMILTON APPLE COMPUTER KLUB

Financial Statement
for the year ending 31 MAY

Cash Balance, 1 June 1989		$1,034.64
Credits:		
Membership Fees	$740.00	
Visitors' Fees	$21.00	
Library Sales	$70.50	
Interest on Bank Balance	$19.73	
Miscellaneous	$14.50	
Total Credits		$865.73
Debits:		
Meeting Expenses	$173.46	
Library Costs	$37.75	
Printing (newsletter)	$557.72	
Postage (newsletter)	$225.99	
Post Office Box Rental	$52.40	
Bank Service Charges	$3.57	
Gratuities	$100.00	
Miscellaneous	$26.86	
Total Debits		$1,177.75
Cash Balance, 31 May 1990		$722.62

We, the undersigned, have examined the financial accounts of the Hamilton Apple Computer Klub for the fiscal year 1 June 1989 through 31 May 1990 and have found them to be in order.

Dated at Hamilton, Ontario this twelfth day of June, 1990.

W. Scott Hopkins

F B Fisher

J Wilson

Scanned

Computers Redefine the Concept of Attention Span

by Phil Shapiro

"Computers are the most efficient educational devices ever invented, because they make it impossible for you not to learn. Teachers can be insensitive, books can be dull, but computers produce a system in which only you count. And you cannot be insensitive or dull to yourself." - Isaac Asimov

According to the doctrines of classic child psychology, preschoolers have an attention span of about ten to fifteen minutes; first graders have an attention span of about 20 minutes; fifth graders can sit still for up to 45 minutes; and high school students can spend up to one hour without getting antsy. But what do we mean by attention span? Is it an objective, actual entity, or a subjective, artificially defined one?

Anyone who works with children knows that younger children cannot concentrate for the same length of time as older children. Younger children are easily distracted, and cannot keep their minds on task. They lack the intellectual self-discipline that naturally develops as the mind matures.

Yet when we say that a young child cannot concentrate for more than ten or fifteen minutes, what exactly do we mean? Surely we don't mean just sitting still, for many a youngster can sit still through an absorbing, hour long Disney filem.

The film is sufficiently interesting to hold the child's attention. True, the child's mind may wander during periods of the film, but by and large the young child's mind is occupied for the duration of the film.

Usually when people talk about attention span, they speak in terms of academic drills. So a young child cannot spend more than a half an hour learning a new subject, or developing a given type of academic skills. Consequently, kindergarten teachers adapt their curriculum so that the children are given a variety of activities to do throughout the day.

This all makes sense, to a certain degree. Until, that is, you see a young child engrossed in working with a computer. For some reason, the child's attention span gets stretched like a rubber band. Half an hour sessions are not uncommon. Hour sessions occur with some frequency. And occasionally a preschoolers will spend a full hour and a half designing graphics with a paint program.

The subject of attention span was brought to mind the other day while giving a private computer lesson to a vivacious preschooler. This young fellow came to computers at an early age by watching the lessons I was giving to his older brother and sister, in third and fourth grade. While still in diapers he would amble over to the computer to watch his siblings interact with this wondrous animated machine.

But that was long ago, when he was two. Now that he's four years old, he insists on having computer lessons of his own. Usually his noisy demands can be quelled by giving him a half an hour lesson at the end of the lesson for his older siblings. But lately he's been complaining that

half an hour is, "way, way too short."

All this would not be so unusual except for the lesson I have last week. With his older brother and sister away on vacation, it looked like the young fellow had a full hour's lesson coming his way. We started off with Math Rabbit, an exquisite collection of number games for young children. We spent about five to ten minutes on each of the four activities on the disk. So after half an hour we changed pace to a mouse based painting program.

This was the first time my young friend had used a mouse, so he spent a goodly ten to fifteen minutes experimenting with how this curious device worked. He made a number of scribbles on the screen, using the various kinds of painting tools available. Then he took great delight in using the eraser tool to erase parts of his drawing. My role, as teacher, was to provide guidance when required, and to otherwise provide commentary and support for any emerging artwork that developed.

Well, forty-five minutes passed by quite quickly with the paint program. His enthusiasm undampened, we proceeded to play a fun maze game. The maze was quite challenging, so I assisted him with the beginning part of the maze, and asked him to help me complete the maze. The more times we played the maze game, the more proficient he became at analyzing his way out of the maze. Time flew by quickly for both of us.

As Isaac Asimov claims in the above quotation, computers can serve as intellectual mirrors of the mind. Working with a well designed program is almost like interacting personally with the sharp wits of the person who designed the program.

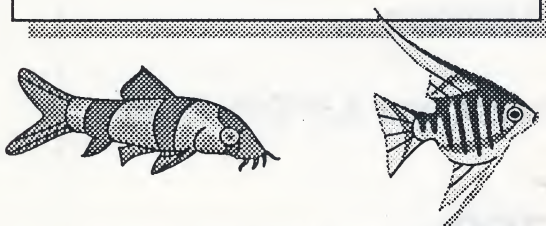
It's no wonder that young children take so well to this "wondrous, animated machine." And no wonder that the computer is stretching the concept of attention span to new, enlarged dimensions.

(The author develops educational software for the Apple II, and teaches computers in elementary school)

Reprinted from Apples B.C. News • August 1990

A teacher/executive member of HACK (not mentioning any names) at the end of the first week of school plus the same graphic reduced.

If You Were Wondering . . .



These delightful fish show up in colour on the screen in PageMaker. The striped catfish above is orange and teal, the angel is Payne's gray, white and a greenish-blue, the first fish in the right column is yellow, orange and blue and the far one is two shades of blue. These and the hot air balloon on page 7 are all encapsulated postscript (EPS) files: postscript is a computer language that tells a laser printer how to put the objects in a picture together, the shading or colour, and also tells the printer how to put together the fonts in the printed portion. (The encapsulated part is an additional file that makes the picture for the computer screen.)

Postscript is a language that can move between Macintosh and IBM programs and any other computer programs. For example,Publish.It! 3.0 for the Apple II's can write its files in PostScript for exportso they can be printed on Laser printers. Of course, if a LaserWriter is hooked up to a IIe, //c or IIgs, Publish.It! 3.0 can send the postscript file directly to the printer.
These

"printer's" dingbats

are a font called "Woodblock Ornaments". Adobe was the original owner of Postscript technology. All fonts in this newsletter are Adobe fonts.

The children on page 9 were hastily drawn in program callerd SuperPaint at 300 dots per inch,

hackette

Newsletter of the

Hamilton Apple Computer Klub

(HACK)

Editor: Donna Takayesu, 385-0296

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P.O. Box 486, Station "A",
Hamilton, Ont., L8N 3H8

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	First ad	Following ads
Full page	$35.00	$25.00
Half page	$20.00	$15.00

Camera ready copy together with payment should be in the hands ofthe Editor by the deadline, the second Tuesday of each month, for the issue reaching members a week before the meeting.

and printed in that resolution.

The other graphics in the newsletter are bitmapped graphics that are the same size as MacPaint pictures at 72 dots per inch. (That's the resolution of a Macintosh screen and the Imagewriter printer.) They are then made smaller - 288 - almost 300 dpi. You can see the improve-

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Compucentre logo was scanned, and tidied at 300 dpi. It's 90% of its original size.

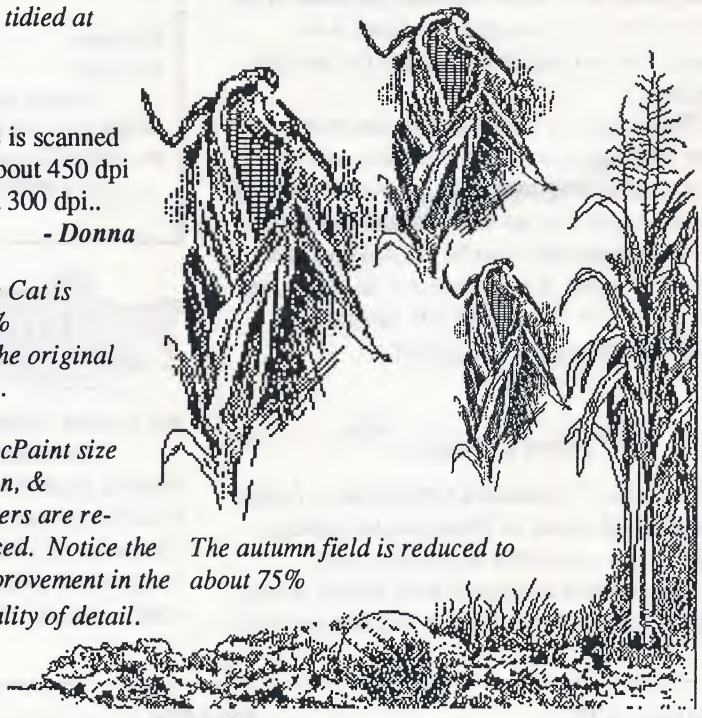
ment when shrinking them.

The financial report on page 8 is scanned at 300 dpi. and then compressed to about 450 dpi to make it fit. But it is still printed at 300 dpi..

- Donna

The Cat is 10% of the original size.

MacPaint size corn, & others are reduced. Notice the improvement in the quality of detail.



The autumn field is reduced to about 75%